ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AMES RESEARCH CENTER
AND
SKYDIO, INC
UNDER SPACE ACT UMBRELLA AGREEMENT NO. 34811 / SAA2-403630
(ANNEX NUMBER ONE)

ARTICLE 1. PURPOSE

This Annex will enable NASA ARC and Skydio to conduct research, development, and testing to assess the viability of using sUAS for automated inspections of the National Full Scale Aerodynamics Complex (NFAC) and Unitary Plan Wind Tunnel (UPWT) at NASA ARC.

Under this collaboration, NASA will share with Skydio the current inspection requirements, metrics, and protocols, and work with Skydio to plan how the inspections shall be performed using their sUAS.

Skydio will provide and operate their sUAS during the proof-of-concept flight inspections at NFAC and UPWT. Flight tests may also occur at other sUAS flight testing facilities at NASA ARC.

NASA and Skydio will then collaboratively determine what new technologies and procedures need to be developed to support the inspections, including different instrument payloads to be carried by the sUAS, changes to hardware or software in the sUAS, and systems and instrumentation such as location beacons that need to be installed in, on, or around the wind tunnels. The Parties will share the data from the flight tests and the analysis of the data sets.

ARTICLE 2. RESPONSIBILITIES

A. NASA ARC will use reasonable efforts to:

1. Provide subject matter experts (SMEs) to safely conduct joint field testing of Partner's sUAS for automated inspections.
2. Provide access to facilities including the wind tunnels and surrounding areas to support operations of the sUAS.
3. Analyze the sUAS derived data.
4. Share lessons learned and operational experience from inspection flights.
5. Assist Partner with identifying sUAS inspection requirements, operational procedures, and protocols for integration and compatibility with Skydio's flight and data management system.

6. To the extent needed, provide access and support within the airspace at Moffett Field.
7. Observe flight testing of Skydio's sUAS during data collection.
8. Jointly with Partner, develop safety assessment scenarios that include off-nominal events (e.g., battery failure, communication unavailability, flight vehicle failure).
9. Provide access, including any necessary NASA IT prerequisites or security requirements, such as an Interconnect Security Agreement (ISA), to a prototype software system via a secured Internet connection.
10. Organize sUAS tests and demonstrations in segments of increasing technical capability.
11. Determine how, where, and when Partner will participate in a given test or demonstration conducted on NASA property.
12. Collect and utilize sUAS Data from sUAS tests and demonstrations.
13. Develop a Mishap Preparedness and Contingency Plan (MPCP) prior to any operations under this Agreement; lead any investigation and safety review (in accordance with NPR 8621, 8715, and 7900) in the case of an incident or mishap.
14. To the extent the Parties engage in NASA-managed flight operations using Partner's sUAS:
    a. NASA will provide airworthiness reviews, conduct Flight Readiness Reviews, and conduct safety and assurance analysis. The aircraft must be registered with the FAA and have a tail number. All pilots, aircrew and aircraft will comply and be operated in accordance with NASA NPR 7900.3 as well as local policies and procedures for the safe flight evolution at the test site.
    b. NASA may also provide any services that are needed to meet NASA or FAA rules and regulations for flight testing, including, but not limited to:
        i. Review of airworthiness criteria required for safe sUAS operations.
        ii. Review of systems to be tested and verifying operational criteria.
        iii. Review of the approved COA, files, updates, reports, or other required documentation.
        iv. Perform safety reviews appropriate for sUAS operations and all associated systems for flight testing with specific vehicles at specific test sites, including laser safety if LIDAR is used.
15. During NASA-managed UAS flight operations, testing or demonstration, NASA will be responsible for range safety personnel and range safety officers (RSO) for oversight as set forth in the requirements of NPR 8715.5B and NASA-STD 8719.25; and
16. Share technical expertise in applying artificial intelligence to analyze the inspection data and generate analytics.

B. Partner will use reasonable efforts to:

1. Conduct joint field testing of Skydio’s automated sUAS.
2. Participate, collect, and provide NASA with sUAS derived data that results from flight testing.
3. Provide and operate the sUAS to perform the inspections.
4. Provide ground support equipment to support sUAS operations.

5. Share lessons learned and operational experience from inspections.
6. Jointly with NASA, develop safety assessment scenarios that include off-nominal events (e.g., battery failure, communication unavailability, flight vehicle failure).
7. Provide inputs to NASA to optimize inspection requirements and protocol for sUAS capabilities.
8. Cooperate with NASA to organize tests and demonstrations of sUAS.
9. Provide supplemental data services and software for partner's interfaces to sUAS .
10. To the extent that the Parties engage in NASA-managed flight operations using Partner's sUAS, Partner will use reasonable efforts to:
    a. Cooperate with and support airworthiness reviews, and flight readiness reviews, conduct safety and assurance analyses in accordance with NPR 7900.3D, as well as local policies and procedures for flight operations;
    b. Comply with requirements to have Partner's aircraft registered with the FAA and obtain a tail number. All pilots, aircrew, and aircraft must be in compliance in accordance with NASA NPR 7900.3 as well as local policies and procedures for flight operation at the test site, and assume FAA Part 107 standards for vehicle, crew and operations;
    c. Comply with requirements and direction from range safety personnel and RSOs for oversight as set forth in the requirements of NPR 8715.5B and NASA-STD 8719.25;
    d. Support NASA and comply with an MPCP prior to any operations under this Agreement;
    e. Comply and assist with mishap and close call investigation requirements, as described in Article 23 and in accordance with NPR 8621, 8715, and 7900;
    f. Cooperate and support any services that are needed to meet NASA or FAA rules and regulations for flight testing, including, but not limited to:
        i. Review of airworthiness criteria required for safe sUAS operations;
        ii. Review of systems to be tested and verifying operational criteria;
        iii. Review of the approved COA, files, updates, reports, or other required documentation;
        iv. Perform safety reviews appropriate for sUAS operations and all associated systems for flight testing with specific vehicles at specific test sites, including laser safety if LIDAR is used.
11. Participate, collect, and provide sUAS Data that results from testing and demonstrations as NASA determines. This may include performance of Partner’s sUAS; interactions with the sUAS; command, control, and navigation data; and pilot operations.

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ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities defined in the "Responsibilities" Article are as follows:

Milestone	Date
Kick-off Meeting (Joint)	1 week after Effective Date
Share current inspection requirements, metrics, and protocols (NASA)	1 week after Effective Date
Perform Inspection Flights (Partner)	1 month after Effective Date and on a monthly basis thereafter
Year 1 Interim Review (Joint)	4 months after Effective Date
Year 1 Final Review (Joint)	12 months after Effective Date
Year 2 Interim Review (Joint)	16 months after Effective Date
Completion Review (Joint)	27 months after Effective Date

ARTICLE 4. FINANCIAL OBLIGATIONS

There will be no transfer of funds between the Parties under this Agreement and each Party will fund its own participation. All activities under or pursuant to this Agreement are subject to the availability of funds, and no provision of this Agreement shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of five (5) years.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement:

None.

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below ("Effective Date") and shall remain in effect until the completion of all obligations of both Parties hereto, or two years from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 8. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Annex.

Management Points of Contact

NASA Ames Research Center
Matt Holtrust
Agreement Manager
Mail Stop: 223-3, Room 100
Moffett Field, CA 94035
Phone: (650) 604-4069
matthew.j.holtrust@nasa.gov

Skydio, Inc.
Jenn Player
Director of Regulatory Affairs
114 Hazel Ave
Redwood City, CA 94061
jenn.player@skydio.com

Technical Points of Contact

NASA Ames Research Center
David Murakami
Aerospace Engineer
Mail Stop: 260-1
Moffett Field, CA 94035
Phone: (650) 604-3685
david.d.murakami@nasa.gov

Skydio, Inc.
Mike Ross
Sr. Director of Product Management
114 Hazel Ave
Redwood City, CA 94061
Phone:
mike.ross@skydio.com

ARTICLE 9. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 10. SIGNATORY AUTHORITY

The signatories to this Annex covenant and warrant that they have authority to execute this Annex. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION AMES RESEARCH CENTER

BY: Huy Tran
Huy K. Tran
Director of Aeronautics

DATE: 9/1/2021

SKYDIO, INC

BY: Brendan Groves
Name: Brendan Groves
Title: VP, Regulatory and Policy Affairs

DATE: 9/1/2021